subordinates state government action to that of the federal government, which has been applied by the courts through a doctrine known as federal preemption.

The U.S. Supreme Court has found that federal preemption applies in three situations[67]: (1) preemption is express where Congress has expressly preempted state law by federal statute; (2) preemption is implied where Congress intended to occupy an entire field and preclude state efforts to regulate in that area; and (3) preemption occurs when federal and state laws or regulations actually conflict so that compliance with both is impossible. Under these three situations, numerous state and local government actions have been invalidated. Examples include invalidation of various unilateral rules, such as a tax[68], an anti-takeover statute[69], a noise abatement ordinance[70], and a wage law.[71]

Although the Supremacy Clause does serve a function for equity and fairness, as with the Takings Clause, it also fulfills an important economic role of encouraging efficient investment through the provision of certainty that the federal government's laws and regulations prevail over those of the state under the above preemption situations. However, the primary function of the Supremacy Clause is to provide for the sustainability of federal policies.

2. Application to Public Utilities

Of particular interest here is how federal preemption under the Supremacy Clause has been applied to the regulation of public utilities in the impossibility situation where federal and state regulations conflict. In this regard, an important line of cases is based on the filed rate doctrine, which provides that rates filed with or set by the relevant federal commission must be given binding effect by state utility commissions in determining intrastate rates.[72]

Congress shall have Power . . . [t]o regulate Commerce with foreign Nations, and among the several States . . . . " U.S. Constitution, art. I, sec. 8, cl. 3.

[67] See Comment, "Emergency Offsite Planning for Nuclear Power Plants: Federal versus State and Local Control," 37 Am. U. L. Rev. 417- 451 (1988); Comment, "Unilateral Tariff Exculpation in the Era of Competitive Telecommunications," 41 Cath. U. L. Rev. 907-941 (1992).

[68] Exxon Corp. v Hunt, 475 U.S. 355, 375 (1986).

[69] Edgar v. MITE Corp., 457 U.S. 624, 639 (1982).

[70] City of Burbank v. Lockheed Air Terminal, 411 U.S. 624, 633 (1973).

[71] Perry v. Thomas, 482 U.S. 483, 492 (1987).

[72] See Nantahala Power & Light Co. v. Thornburg, 476 U.S. 953, 962-964 (1986); Montana-Dakota Utilities Co. v. Northwestern Public Service Co., 341 U.S. 246, 251-252 (1951).

Under the filed rate doctrine, in Nantahala Power & Light Co v. Thornburg,[73] the U.S. Supreme Court invalidated an order of the North Carolina Utilities Commission which set retail rates based on the conclusion that the Nantahala Power & Light Co. should have included more of the low-cost FERC regulated power than it in fact can under the Federal Energy Regulatory Commission's (FERC) order. The Court stated that:

> "The filed rate doctrine ensures that sellers of wholesale power governed by FERC can recover the costs incurred by their payment of just and reasonable FERC-set rates. When FERC sets a rate between a seller of power and a wholesaler-as-buyer, a State may not exercise its undoubted jurisdiction over retail sales to prevent the wholesaler-as-seller from recovering the costs of paying the FERC-approved rate. *Such a 'trapping' of costs is prohibited.* Here, Nantahala cannot fully recover its costs of purchasing at the FERC-approved rate if NCUC's order is allowed to stand."[74]

Similarly, in Mississippi Power & Light Co. v. Moore,[75] the Court held that the Mississippi Public Service Commission was preempted from inquiring into the prudence of management decisions that led to construction and completion of a nuclear power plant where FERC had already required the Mississippi Power & Light Co. to purchase a portion of that nuclear power plant's output at rates determined by FERC to be just and reasonable. This holding was required in order to prevent a "trapping" of costs.

This prohibition as to the trapping of costs protects the utility from financial viability problems which would otherwise result from conflicting or inconsistent federal and state commission actions. Thus, the Supremacy Clause has been interpreted so that "impossible compliance" includes financial unsustainability of the utility with respect to conflicting regulatory actions across federal and state agencies. In this context, it is important to note that the conflict arises from actions taken by commissions pursuant to existing bilateral arrangements - economic regulatory contracts - between the commissions and the utility.

---

[73] 476 U.S. 953 (1986).
[74] 476 U.S. at 970 (1986) (citations omitted; emphasis added).
[75] 487 U.S. 354 (1988).

D. Contract Clause

An additional limitation placed uniquely on legislative actions[76] by state governments is found under the Contract Clause of the U.S. Constitution, which provides that "No State shall . . . pass any . . . Law impairing the Obligations of Contracts."[77] The policy underlying the Contract Clause is that:

> "Contract rights deserve special protection because they are perhaps the one property interest that is most closely related to allocative efficiency and the growth of commerce. They represent resources in transition. ... Like the taking clause, it includes an element of equity -- retroactive laws are unfair -- and, like the commerce clause, an element of efficiency -- interference with commerce by individual states reduces the size of the national economic pie."[78]

This clause has been held to be applicable to impairment of both private and public contracts[79], the distinction being that the State is a party to the contract in the latter case but not the former. In either case the same standard is applied, but more stringently in the case of public contracts, and the remedy is invalidation of the state law.[80]

"Although the language of the Contract Clause is facially absolute, its prohibition must be accommodated to the inherent police power of the State 'to safeguard the vital interests of its people'."[81] Thus, in determining whether a State has violated the Contract Clause, the courts attempt to balance the Contract Clause with the State's interest in exercising its policy

---

[76] For a discussion as to the applicability of the Contract Clause as to judicial decisions, as opposed to legislative actions, see Thompson, "The History of the Judicial Impairment 'Doctrine' and Its Lessons for the Contract Clause," 44 Stan. L. Rev. 1373 (1992).

[77] U.S. Constitution, art. I, sec. 10, cl. 1.

[78] Clarke, "The Contract Clause: A Basis For Limited Judicial Review of State Economic Regulation," 39 U. Miami L. Rev. 183-255, 186 (1985) (footnote omitted).

[79] Public contracts include charters and licenses. See Trustees of Dartmouth College v. Woodward, 17 U.S. 518 (1819).

[80] See "Note, Takings Law and the Contract Clause: A Takings Law Approach to Legislative Modifications of Public Contracts," 36 Stan. L. Rev. 1447-1484 (1984).

[81] Energy Reserves Group, Inc. v. Kansas Power & Light Co., 459 U.S. 400, 410 (1983), *quoting*, Home Bldg. & Loan Ass'n v. Blaisdell, 290 U.S. 398,434 (1934).

power. Under current law there is a two-step process by which this balancing occurs.[82]

First, the claimant must show that the state law has substantially impaired the claimant's contractual obligations. This step requires that the alleged contractual impairment violate the reasonable expectations of the parties to the contract. In this regard, whether or not a party to the contract is a member of a heavily regulated industry may be important.[83]

Only if impairment is found does the court then proceed to the second step, which is to determine whether the state's law is necessary and reasonable to serve an important public purpose. It is this second step which is applied differently to private and public contracts.[84] For situations involving private contracts, complete deference is given to the State's legislative judgment as to the necessity and reasonableness of a particular legislative measure. However, for situations involving public contracts, such complete deference is not appropriate because the State's self-interest is involved. Thus, as to public contracts, the court will also assess such questions as: (1) was a more moderate approach available; and (2) was the state action reasonable in light of surrounding circumstances. Overall, the "State is not completely free to consider impairing the obligations of its own contracts on a par with other policy alternatives."[85]

Given this distinction between private and public contracts, it is also necessary to determine when a contract is public or not. The court must first determine whether the State had the ability to enter into an agreement that limits its power to act in the future. This is known as the reserved power doctrine, under which certain powers can not be contracted away.[86] If a reserved power is involved then there is no public contract, otherwise, analysis then proceeds based on the following premise, "that absent some clear indication that the legislature intends to bind itself contractually, the presumption is that 'a law is not intended to create private contractual or

---

[82] See Energy Reserves Group v. Kansas P. & L. Co., 459 U.S. 400 (1983); United States Trust Co. v. New Jersey, 431 U.S. 1 (1977).

[83] See Energy Reserves Group v. Kansas P & L Co., 459 U.S. at 415-416 (ERG knew its contractual rights were subject to alteration by state price regulation of the gas prices of the other party to the contract).

[84] See United States Trust v. New Jersey, 431 U.S. at 25-26.

[85] 431 U.S. at 30-31.

[86] 431 U.S. at 23-25 (the State can not contract away eminent domain and police powers, but may contract away the future exercise of taxing and spending powers).

vested rights but merely declares a policy to be pursued until the legislature shall ordain otherwise.' "[87] In this regard, the Court initially examines the language of the statute. If the statute provides for execution of a contract on behalf of the State, then the obligation to bind the State is clear and there is a public contract.[88] In the absence of clear language, the court determines whether the circumstances of the statute's passage indicate intent to contract away governmental powers. However, the court will not lightly construe a scheme of public regulation to also be a contract to which the State is a party.[89]

Under the case law, state laws attempting to alter contract rights or contract remedies of antecedent private contracts, such as in debtor or mortgage situations, have been invalidated. [90] However, in more recent years the Court has been increasingly reluctant to invalidate state laws as impairing private contracts.[91]

As to public contracts, impermissible state laws impairing contracts have arisen most frequently in the context of municipal bonds. The most significant case in this regard is United Trust Co. v. New Jersey,[92] where the state attempted to revoke covenants contained in municipal bonds. It has also arisen in situtations where the government is a party to contracts, such as a land sale[93] or employment contract.[94]

Thus, the Contract Clause places limits on state legislation in order to prevent substantial impairment of existing private, but particularly public, contractual obligations.[95] Such limits on retroactive actions are needed to

---

[87] National Railroad Passenger Corp. v. Atchison, Topeka & Santa Fe Railway Co., 470 U.S. 451 465-466 (1985) *quoting*, Dodge v. Board of Education, 302 U.S. 74, 79 (1937).

[88] See United States Trust Co. v. New Jersey, 431 U.S. 1 (1977) (public contract found where State "covenanted agreed" to place a limit on its ability to revocate certain obligations to bondholders).

[89] National Railroad v. Atchinson, 470 U.S. at 467. In fact, the existence of pervasive prior regulation of railroads was an important reason for the Court's finding no public contract in this case.

[90] For a general discussion, see Olken, "Charles Evans Hughes and the Blaisdell Decision: a Historical Study of Contract Clause Jurisprudence," 72 Or. L. Rev. 513-602 (1993).

[91] Energy Reserves Group, Inc. v. Kansas Power & Light Co., 459 U.S. 400 (1983); Exxon Corp. v. Eagerton, 103 S. Ct. 2296 (1983). For a general discussion, see Clarke, *supra* note 78.

[92] 431 U.S. 1 (1977)

[93] El Paso v. Simmons, 379 U.S. 497 (1965).

[94] Indiana ex rel. Anderson v. Brand, 303 U.S. 95 (1938).

[95] Contracts themselves may be unilateral or bilateral in nature between the parties. "A unilateral contract is one in which one part y makes an express engagement or undertakes a performance, without receiving in return any express engagement or promise of performance from the other. Bilateral (or reciprocal) contracts are those by which the parties expressly enter

give implicit or explicit assurances of contractual security and to prevent the State from upsetting expectations unfairly. Consequently, similar to the Takings Clause, the Contract Clause functions to support the underlying property rights system.[96] Although, practically speaking, parties seek protection of property rights more frequently under the Takings and Due Process Clauses.[97] In this way, at least in severe cases, the impact of inconsistent or conflicting obligations under contract and state statutes are addressed.

E. Ex Post Facto Laws

Finally, of interest here, a constitutional limit on both federal and state government actions is the prohibition of the passage of ex post facto laws. The prohibition applicable to the federal government states that "No bill of Attainder or ex post facto Law shall be passed."[98] Similarly, the prohibition applicable to the States provides that "No State shall . . . pass any Bill of Attainder, [or] ex post facto Law . . . . "[99] In essence, this prohibition prevents the passage of retroactively applicable legislation where an action done before the passing of the law, which was innocent when done, becomes criminal and punishment is imposed for such action.[100] Historical review of the Constitutional framers' intent as to the ex post facto prohibition indicates that its purpose is to provide fair notice of the laws to citizens, to prevent the creation of statutes that are not universally applicable but designed to be applicable to a particular person, and to prevent abusive legislation often used as tools by tyrants to achieve politically motivated results.[101]

Ex post facto criminal laws are invalid, however, only those civil laws which are unmistakably punitive are invalid. In determining whether a civil law is unmistakably punitive, the court considers: (1) relevancy of the statute;

---

into mutual engagements, such as sale or hire." Black's Law Dictionary, 4th ed. revised, 14th reprint, St. Paul, MN: West Publishing Co. (1976), p. 397.

[96] In fact, some argue that, with public contracts, contract clause problems are merely variations of the takings problem. *See , e.g.,* Note, *supra* note 80, at 1477.

[97] See Clarke, *supra* note 78.

[98] U.S. Constitution, art. I, sec. 9, cl. 3.

[99] U.S. Constitution, art. I, sec. 10, cl. 1.

[100] For a fuller description of the types of ex post facto laws, see Calder v. Bull, 3 U.S. 386 (1798).

[101] See Aiken, "Ex Post Facto in the Civil Context: Unbridled Punishment," 81 Ky. L. J. 323, 327-330 (1993).

(2) whether the statute is directed toward the person rather than the thing to be regulated; and (3) whether the law's effect was avoidable. However, in reviewing such questions, there is a presumption of legitimacy of the law which must be overcome.[102] Civil statutes which have been invalidated as ex post facto laws include a number of laws that prevented entry into certain professions by persons due to their political involvements or previous status as a felon.[103] Civil laws, however, have only infrequently been invalidated.

Thus, generally, governments are free to pass laws that establish certain actions by persons as criminal or subject to civil fines or forfeitures. The limitation on such punitive, unilateral rules is the extent to which they may be retroactively applied in order to provide fair notice of laws to citizens, to prevent laws from being designed so as to be applicable to particular persons rather than universally, and to prevent abusive legislation.

F. Effects of Multiple Constitutional Provisions

The previously discussed Constitutional provisions are by no means the only ones enabling or limiting federal or state governmental actions,[104] however, they do provide critical insights in terms of the typology presented here. The cumulative effect of these provisions is that both federal and state governments have extensive powers to impose requirements on otherwise unregulated activities for virtually any legitimate governmental purpose. As a result, governments have been able to create numerous forms of regulatory interventions. Such interventions include the imposition of unilateral rules on all entities engaged in diverse activities, such as found with antitrust laws, environmental laws, work safety and health standards, price and output controls, taxes, fines, licensing, and permits. Other interventions consist of the imposition of bilateral rules, most notably those found in the context of bilateral commitments which are unique to providers of certain activities, such as the extensive regulation applied to providers of utility services.

---

102 See Aiken, *supra* note 101 at 336-341.

103 See Aiken, *supra note* 101 at 330, n. 35.

104 To discuss all Constitutional provisions would be prohibitive and is beyond the scope of this paper. However, another Constitutional provision of importance to the telecommunications industry is the the First Amendment which provides that "Congress shall make no law ... abridging the freedom of speech ...." But this provision is not relevant to the economic sustainability issues discussed here.

However, many forms of governmental interventions are not permitted for equity and fairness reasons as well as their tendency to create compatibility and, specifically, sustainability problems. The interventions prohibited under Constitutional Clauses, as previously discussed, are summarized in Table 4.

As indicated in Table 4, concepts of equity and fairness underlie all of the Constitutional provisions. However, some of the Clauses specifically address different types of sustainability problems. Some relate to the need to generally support economic investments of individuals and firms that are rooted in the underlying property rights system, as exemplified by the discussion as to the Takings, Due Process, and Contract Clauses, respectively.

Other sustainability problems relate to the financial viability of a specific firm. In the case of public utilities, the Takings Clause ensures financial viability of the utility with regard to changes in regulation by a given governmental unit by prohibiting confiscation; the Equal Protection Clause ensures equal treatment with regard to the application of a specific regulation of a governmental unit between similarly situated, competing utilities by requiring equal tax treatment; and the Supremacy Clause ensures the financial viability of a utility by preventing "trapping" of costs between conflicting regulations between federal and state governmental units.

Still other sustainability problems relate to the financial viability of an industry. This is exemplified by the cases discussed under the Equal Protection Clause. The viability of an industry may be affected by the cumulative financial burden imposed by multiple governmental units acting similarly, or by the financial burden imposed by a single governmental unit where there is no relationship between the burden of the rule and its stated purpose.

TABLE 4
Constitutional Limits on Government Action

Constitutional Clause	Government Relationship to Utility	Government Action Subject to Limitation	Economic/Social Problem	Government Action Prohibited	Remedy
Takings & Due Process Clauses (5th & 14th Amendments)	fed or state <----> utility govt	unilateral or bilateral rule	equity & fairness; sustainability of property rights system	confiscation	invalidation of federal or state action; or conversion of unilateral rule to bilateral rule through provision of compensation
Equal Protection Clause	(a) state <----> utility <----> competitor	(a) asymmetric application of unilateral or bilateral rule	(a) equity & fairness; interfirm or interindustry sustainability	(a) disparate treatment with competitor	(a) symmetric application of state action
	(b) state <----> utility	(b) unilateral or bilateral rule	(b) equity & fairness; could lead to cumulative burden problem under (c)	(b) no relationship between financial burden of rule and its stated purpose	(b) invalidation of state action
	(c) state 1 <----> state 2 <----> utility state 3 <---->	(c) cumulative unilateral or bilateral rules	(c) equity & fairness; sustainability of firm or industry	(c) no relationship between financial burden of rule and its stated purpose, and unreasonable cumulative financial burden	(c) invalidation of state action

Supremacy (& Commerce) Clause	fed <----> utility state <----> utility	conflicting unilateral or bilateral rules between state and federal governments	equity & fairness; sustainability of federal policy; sustainability of firm	interference with federal policy; trapping of costs of firm	invalidation of state action (i.e. federal preemption)
Contract Clause	state 1 or private <----> utility party (at time period 1) utility <---- state 1 (at time period 2)	state impairment with preexisting private contracts or its own public contracts	equity & fairness; sustainability of property rights system	substantial impairment of contractual obligations which is not necessary or reasonable to serve a public purpose	invalidation of federal or state action
Ex Post Facto	fed or state ----> utility govt (at time period 1) utility <---- fed or state govt (at time period 2)	application of new, punitive unilateral rules to prior conduct	equity & fairness	unfair notice of laws to citizens; laws applicable only to a particular person; abusive legislation	invalidation of retroactive rule

V. Augmenting the Application of the Framework to U.S. Universal Service Policy Through Use of Constitutional Principles

The results of the legal review discussed in Section IV and depicted in Table 4 can also be reorganized so as to show constitutional limitations on unilateral and bilateral rules. In particular, the following Tables 5 and 6 are reorganizations which show the limits on rules due to their long-term prospective effects and their transitionary effects based on preexisting circumstances, respectively. We start with Table 5.

TABLE 5
Constitutional Limits on Unilateral and Bilateral Rules Based on Prospective Effects

Government Action Subject to Limitation Regardless of Preexisting Circumstances	Threat to Sustainability	Remedy	Constitutional Clause
Asymmetric unilateral or bilateral rule.	Interfirm or interindustry sustainability.	Apply rule symmetrically.	Equal Protection Clause.
Single unilateral or bilateral rule.	Sustainability of firm or industry if it could lead to following multiple rule problem.	Invalidation of rule.	Equal Protection Clause.
Multiple, similar unilateral or bilateral rules applied to one firm or industry.	Sustainability of firm or industry.	Invalidation of rule.	Equal Protection Clause.

Table 5 summarizes the results of the legal analysis in terms of constitutional limitations on government actions where the threats to sustainability are essentially the result of only prospective effects which are independent of preexisting circumstances, such as prior investment. These are the limitations imposed by the Equal Protection Clause. Similarly, Table 3

in Section III summarizes the results of the earlier, economic analysis in terms of the sustainability of certain requirements with competition, again without regard to transitionary issues. The first entry in Table 5, concerning the asymmetric imposition or application of government actions between similarly situated firms, produces the same result derived from the economic analysis depicted by the first entry in Table 3. Both legal and economic analysis consider such asymmetry to be a threat to interfirm or even interindustry sustainability;[105] however, the breadth of circumstances under which asymmetry is problematic under the economic analysis is greater than that under the Equal Protection Clause.

The rest of Table 5 shows that the legal analysis introduces another threat to sustainability which needs to be considered, which was not discussed in Section III. This concerns the effect of similar rules imposed by multiple governmental units, where the cumulative effect is to threaten the sustainability of a firm or industry. The cumulative burden of taxes or fees, where the financial burden imposed bears no relationship to its stated purpose, is a particular problem. Moreover, the combined effect of asymmetry and cumulative taxes or fees may determine the future viability of some forms of communications technology.[106] As a result, future economic regulation of the communications industry will require closer scrutiny of and coordination between multiple governmental units and their treatment of industries that, although once distinct, are now converging.

On the other hand, the rest of Table 3 sets forth several sustainability problems not found under the legal analysis. These problems concern the unsustainability of various unilateral rules that, although imposed symmetrically, would likely not be sustainable with competition in the telecommunications industry. In some cases, it is due to the fundamentally

---

[105] Other papers on the subject of asymmetric v. symmetric regulation in the telecommunications industry have dealt with efficiency implications but have ignored the sustainability issues addressed here. See, e.g., Weisman, D.L., "Asymmetrical regulation: Principles for emerging competition in local service markets," 18 Telecommunications Policy 499-505 (1994); Schankerman, M, "Symmetric Regulation for a Competitive Era," Paper prepared for the Twenty-Sixth Annual Conference Institute of Public Utilities in Williamsburg, VA (December, 1994); Haring, J., "Implications of Asymmetric Regulation for Competition Policy Analysis," Office of Policy and Plans Working Paper Series No. 14, Federal Communications Commission (December, 1984).

[106] In fact, the disparate tax burden - driven by the cumulative effect of disparate federal, state and local taxes - between video dialtone and cable services greatly affects the competitiveness between the services in many geographic areas.

unremunerative nature of these unilateral rules, such as cross-subsidies and carrier of last resort obligations. In others, it is due to the inability to enforce the unilateral rules symmetrically so that compliance is likely to be asymmetric, such as with common carrier obligations and low income assistance. There is no parallel provision among the constitutional clauses discussed in this paper to address these types of sustainability problems. Currently, there appears to be no legal remedy to prevent imposition of unilateral rules posing these types of problems, although arguably one might be able to seek a broader interpretation of the Equal Protection Clause to remedy the form of asymmetry resulting from asymmetry in compliance. But most important, the economic analysis in Section III reveals the necessity of replacing unilateral rules with bilateral ones where the vulnerability to expropriation of investment is based on the rule, such as due to sunk costs. Due to the various sovereignty powers of governmental units, it will be difficult to achieve such bilateral rules, particularly as part of judicial remedies.

Next we consider Table 6, which summarizes the results constitutional limitations on government actions where the threats to sustainability are the result of their transitionary effects arising from preexisting circumstances.

TABLE 6
Constitutional Limits on Unilateral and Bilateral Rules Based on Preexisting Circumstances

Government Action Subject to Limitation Due to Preexisting Circumstances	Preexisting Circumstances	Threat to Sustainability	Remedy	Constitutional Clause
Unilateral or bilateral rule.	Existing property investment; investment based on existing bilateral commitment.	Sustainability of property rights system; sustainability of existing bilateral commitment.	Invalidation of rule; or conversion of unilateral rule to a bilateral rule.	Takings & Due Process Clauses.

Unilateral or bilateral rule.	Existing federal rule.	Sustainability of federal policy; sustainability of firm.	Invalidation of rule.	Supremacy & Commerce Clauses.
Unilateral or bilateral rule.	Investment based on existing bilateral rule.	Sustainability of property rights system; sustainability of bilateral rule.	Invalidation of rule.	Contract Clause.
Unilateral rule.	Prior conduct.	Sustainability of political process (by preventing abusive legislation).	Invalidation of retroactive rule.	Ex Post Facto Clause.

Fundamentally, the sustainability problems depicted in table 6 arise from prior investments - whether in real property, based on existing contracts, or based on existing bilateral rules - or prior conduct. The discussion in Section III also recognized sustainability problems arising from preexisting circumstances when changes in regulatory rules occur. However, the only preexisting circumstance commonly addressed in the economic literature is the existence of a bilateral commitment in the form of a regulatory contract. In this regard, the economic literature offers remedies in terms of the recognition of expropriated investments, whereby either government is compelled to compensate for the diminished value of or inability to recover the investment or the firm is permitted to compensate the government to avoid the loss. Beyond that, little guidance is given as to how to transition an entire industry from one regulatory regime to another.

Yet, prior constitutional jurisprudence provides extensive experience in addressing expropriation problems under specific circumstances. The Takings and Due Process Clauses address expropriation problems with regard to existing real property rights and the sustainability of utilities under existing bilateral commitments. The Supremacy and Commerce Clauses address expropriation problems resulting from the conflict between federal and state rules, and the Contract Clause addresses those problems arising from conflicts with existing public or private contracts. As such, the case law does provide

us with some critical insights for addressing changes from traditional regulation to a more competitive environment.

First, governments must better anticipate the new confiscation problems that may arise from altering significant aspects of existing bilateral commitments with traditional telecommunications providers. The existing case law is based on confiscation problems that arose from ratemaking decisions. It is likely that new types of confiscation problems will arise with the elimination of the monopoly franchise, such as government's attempt to asymmetrically impose cross-subsidy requirements and carrier of last resort obligations. But likewise, the courts must be willing to grant remedies for these new types of confiscation by permitting a more expansive reading of the Takings and Due Process Clauses.

Second, governments must be willing to renegotiate or establish new bilateral commitments as a whole. Piecemeal changes in regulatory rules may render existing, modified, or even new commitments unsustainable. This process can be facilitated if the courts are willing to interpret the Contract Clause so as to more readily recognize when a public contract exists. For example, the courts should recognize the traditional regulatory contract between the state and a LEC, notwithstanding perhaps the lack of certain legal terms it traditionally seeks to determine the existence of a public contract. In this way, a remedy will be more readily available if action by that governmental unit breaches the contract. Furthermore, the government will then have a greater incentive to negotiate a sustainable bilateral commitment in the first place.

Third, we should be more attentive to the ramifications of conflict between federal and state rules. New types of federal-state conflicts may arise, the effects of which we have little experience with, due to the rapidity of the transition from monopoly franchises to competition. However, this will likely require that the standards for determining the need for federal preemption under the Supremacy Clause will have to be broadened. In particular, the impossibility standard will need to be interpreted more broadly to include situations where the "impossibility" does not become apparent except upon analysis over a longer time period or through the interactions of complex combinations of governmental rules.

VI. Summary and Conclusion

New technologies and a changed regulatory philosophy are leading to a rapid dismantling of the decades old regime of franchised monopoly in telecommunications. Performance obligations once carried out as part of an all encompassing bilateral commitment between service provider and regulator are now being administered as unilateral rules, or conditions of service. This still ongoing evolution of a new regulatory regime has proceeded without serious consideration of the types of problems and goals the old regime might have been particularly well-suited to address, and, more importantly whether unilateral rules imposed on competitive firms are adequate remedies for these same problems and goals.

To address this fundamental question of regulatory reform in telecommunications, we examined and compared the policies employed in support of universal service goals under the old bilateral commitment regime and the emerging regime of unilateral rules. A general conclusion of this economic analysis was that each of these unilateral rules are fundamentally incompatible with a competitive telecommunications industry for at least one of the following three reasons: (1) they are applied differently to different firms, resulting in rule-based advantages that lead to inefficient competitive outcomes; (2) difficulty in monitoring compliance leads to competitive advantage based on differential ability to evade them and, consequently, a strong incentive to do so; or (3) the investments that must be incurred to satisfy these rules are sufficiently at risk to regulatory expropriation as to preclude voluntary provision of service at desired levels of quality, continuity and price. The solution to the first two problems is to convert unilateral rules to bilateral agreements while the third problem must be addressed through bilateral commitments. Failure to recognize these limitations will eventually lead to inconsistencies and contradictions within the emerging regulatory regime that will have to be corrected by revision of the rules employed.

Unfortunately, the economics literature provides little guidance as to how to manage the transition to a more competitive regime without sufficiently violating the legitimate expectations for investments made under the old regime so as to make such bilateral commitments that will be required in the future difficult to achieve. While this analysis suggests that it is

important, going forward, to try to anticipate and deal with potential confiscation problems before they arise, this recognition of a general principle does little to help us through the transition between regimes that is already well underway. A review of the legal literature suggests, however, that a broader interpretation and application of the Takings, Due Process, Contract, and Supremacy Clauses, by expanding the scope of governmental liability, would force policymakers to be more attentive to the financial interests of private parties when imposing regulation for social goals. If such Clauses are applied expeditiously, so as to mitigate transaction costs and time delays in providing remedies, then a more efficient and sustainable transition in regulatory regimes to achieve universal service goals with local competition will likely occur.

ATTACHMENT A

ENSURING THE VIABILITY AND INTEGRITY OF UNIVERSAL SERVICE POLICY WITH COMPETITION

By

Barbara A. Cherry
Northwestern University
& Ameritech

Steven S. Wildman
Northwestern University
& Law and Economics Consulting Group

TABLE OF CONTENTS

INDEX OF CHARTS AND TABLES

I. INTRODUCTION

The telecommunications industry in the United States and Europe is in a period of transition from monopoly to competition. Yet, movement toward a competitive industry does not imply a total absence of regulation. Society still holds expectations that are not likely to be met by a telecommunications industry totally unconstrained by regulatory and legal requirements, as exemplified by various performance obligations, such as ubiquity of service, implicit in universal service policy.

Different approaches will be required to achieve policy goals in a more competitive industry than those that worked with traditional regulated or governmentally-owned monopolies. In recognition of this fact, legislators and regulators (both state and federal) have been revising the rules governing providers, but without a clear vision of how the various rules interrelate or might be coupled structurally to accomplish various goals.

In earlier papers[1], we developed a typology — based on a key distinction between unilateral and bilateral rules — for mapping social goals concerning marketplace activities with regulatory interventions that are necessary to accomplish those goals. We showed what forms of rules are required to ensure sustainability and achievement of underlying social goals while embracing competition where possible. In particular, this typology was applied to analyze the continued achievement of universal service goals with open entry and not monopoly franchises.

In developing this typology, we identified several requirements for designing sustainable, governmental interventions imposed on private parties to achieve social goals while also pursuing governmental policy that embraces competition. First, there

---

[1] Drafts of a working paper bearing the same title, "A framework for managing telecommunications deregulation while meeting universal service goals," have been presented at several conferences: 23rd Annual Telecommunications Policy Research Conference, Solomons, Maryland (October 1995); The 2nd Annual Conference of the Consortium for Research on Telecommunications Policy, Northwestern University, Evanston, Illinois (May 1996); and the International Telecommunications Society Eleventh Biennial Conference, Seville, Spain (June 1996). A copy of the working paper containing the most comprehensive discussion of consitutional issues, which was presented at the Northwestern University conference, is attached hereto as Attachment 1.

must be compatibility, not only between a given goal and the associated governmental obligation imposed on a private party, but also among any combination of goals and their associated obligations. Second, an obligation imposed on private parties must be competitively neutral on its face and in effect. Third, government interventions must be analyzed for the creation of transitional sustainability problems, which arise from their effects on preexisting circumstances and investments. Fourth, government interventions must be analyzed for the creation of long term sustainability problems, which would arise independent of preexisting circumstances and investments.

Based on these requirements, we showed that some universal service goals can be achieved through the imposition of unilateral rules — that is, the unconditional imposition of requirements — on firms in an industry. Yet, other universal service goals require the use of bilateral rules, by which we mean that government must provide some form of compensation or privilege in exchange for performance by a private provider. Furthermore, different types of bilateral rules may be required, depending on the vulnerability of private parties to expropriation of investments, as under carrier of last resort obligations.

We also noted that, to date, governmental bodies have not recognized the distinction between unilateral and bilateral rules or its implications for regulatory design. This is not surprising because telecommunications services have historically been provided by monopolies, rendering such a distinction irrelevant to the accomplishment of regulatory goals. However, with competition, the same rules may no longer accomplish the desired goals and may have unforeseen adverse consequences. This makes it critical for regulatory redesign to proceed with a more sophisticated understanding of the competitive implications of policy goals and the regulatory interventions employed to attain them.

Earlier this year, Congress codified some universal service goals and principles in section 254 of the Telecommunications Act of 1996 (TA96). On November 8, 1996, a

Federal-State Joint Board released its Recommended Decision in Docket No. 96-46, proposing recommendations for how the Federal Communications Commission (FCC) should implement section 254. In this paper, we will describe the typology developed in our earlier papers and then apply it to various rules embodied in the Joint Board's Recommended Decision. We show that the underlying universal service goals are likely to be sustainable under some of the proposed rules but not others. We also explain what modifications to these rules are required to make them sustainable.

II. A Framework for Ensuring Goal-Rule Compatibility in a More Competitive Telecommunications Industry

Some social goals are not achievable in an unregulated marketplace for a variety of reasons. Society may not approve of some products supplied by markets, markets may suffer from various imperfections leading to inefficiency in the supply of goods and services society does want, or private markets may not serve some individuals whom society would like to have served. Policy responses to these problems may take a variety of forms, but, to be effective, such responses must satisfy certain compatibility criteria.

A. Issues of Goal-Rule Compatibility

Any plan for a more competitive telecommunications industry must have both a long term vision that defines policy goals and appropriately matches them with regulatory instruments to achieve those goals, and mechanisms for dealing with the transition from the current state of affairs to the one that is desired in the long term. In both cases, two types of compatibility must be considered. One is that a given social goal actually be achievable through the selected form of regulatory intervention. The second is that social goals in combination be achievable given the interventions employed.

There may be many reasons why either form of compatibility is not realized. An individual goal-intervention combination may not be compatible because the intervention does not address critical problems associated with achieving the goal. For example, subsidized prices for local rates will not increase telephone subscribership among

households who refuse to take service due to high toll bills. Goals may also be inherently incompatible with each other, which precludes their joint realization. Fiber optic cable to the home and low cost local service are examples of goals that cannot be achieved simultaneously, at least not with current technology. The primary threat to compatibility addressed in this paper is the possibility that the selected policy interventions will make the activities of the regulated agent financially unsustainable and, for this reason, unable to contribute to the attainment of universal service policy goals.

B. Principles to Ensure Goal-Rule Compatibility

1. Unilateral and Bilateral Rules

Regulation may take an almost infinite variety of forms. Government may supply a service or product, or government may regulate privately-owned suppliers, such as the federal and state governments' regulation of telecommunications companies in the U.S. For regulation of privately-owned companies, we are concerned with two broad categories of regulation, which we call unilateral rules and bilateral rules.

Unilateral rules are performance requirements imposed by government on firms as a condition for providing service without any assurance by government that the affected firms will be able to generate revenues sufficient to cover the associated costs.[2] Taxes or levies, minimum wage laws, workplace safety requirements, and product reliability standards are among the many unilateral requirements that are commonly encountered. As is explained below, certain types of performance requirements cannot be sustained as unilateral rules imposed on private firms in competitive markets. In such cases, achievement of policy goals requires the use of bilateral rules.

Bilateral rules differ from unilateral rules in that affected firms receive some form of compensation or special consideration in exchange for meeting government-specified

---

[2] Some unilateral rules may also be viewed as granting a benefit or privilege by government. An example is a tax credit, which, however, can also be viewed as a change in a performance requirement. In any event, this paper is concerned with unilateral rules which impose performance reuirements rather than grant benefits.

performance obligations. With a bilateral rule, the government and a regulated firm acknowledge mutual and specific obligations toward each other.

Within the category of bilateral rules, we define two types. *Bilateral agreements* are performance requirements imposed by government on firms which are coupled with financial compensation to cover some of the costs associated with the requirements and to enable their performance.[3] *Bilateral commitments* are performance requirements accepted by firms in exchange for which the government accepts some degree of responsibility and provides some form of assurance for the financial health of the firms taking on the obligations, including the provision of safeguards against the threat of regulatory expropriation of the investments required to provide service.

Lifeline and Linkup programs in the U.S., which provide funding to local exchange companies (LEC's) for the provision of service to low income customers, are examples of bilateral agreements. In this situation, government provides explicit funding to the LEC's but assumes no responsibility for their overall financial health.

Traditional monopoly franchises granted to public utilities in the U.S., described as regulatory contracts by Goldberg,[4] are a form of bilateral commitment. This is because the regulated private firm agrees to provide service at a certain price in exchange for a monopoly franchise granted by government, which gives the firm a reasonable expectation of providing service at compensatory rates for a sufficiently long period to realize a fair return on sunk investments.[5] For bilateral commitments, some form of restriction on entry by competitors is usually a critical component of the governmentally provided assurance for the firm's financial viability.

---

[3] As with unilateral rules, some bilateral agreements grant a governmental benefit or privilege to firms, but, by contrast, firms must provide some *quid pro quo* in exchange. This paper is concerned with bilateral agreements where a firm provides a requested service in exchange for compensation by government.

[4] Goldberg, "Relational exchange," 23 American Behavioral Scientist 337-352 (1980); Goldberg, "Regulation and administered contracts," 7 Bell J. of Economics 426-448 (1976).

[5] Patent laws are another example, where the prospect of earning a return on investments in innovations is given through grant of a patent, which provides for exclusive use of the innovation covered by the patent for a substantial period of time. Like an exclusive utility contract, this is an *ex post* barrier to entry.